

a³
and the dried potassium hydroxycitric acid under nitrogen [is used for commercial manufacturing of potassium hydroxycitrate salt].

Please add claims 16 and 17 as follows:

-- 16. The process of claim 5, wherein the Garcinia fruit is Garcinia cambogia or Garcinia indica fruit.

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17. The process of claim 16, wherein the Garcinia fruit is Garcinia cambogia.

REMARKS

The amendments to the claims are supported by the original claims 1 and 5 and the specification at pages 10-12. Claims 16 and 17 are supported by page 10, first paragraph. Claims 1-15 were pending. With the cancellation of claims 3 and 4 and addition of claims 16-17, claims 1, 2 and 5-17 are pending.

Foreign Priority

The Office Action indicates that the instant application claims foreign priority. Applicants disagree because no foreign priority was claimed as shown by the declaration.

Claim Rejection -- 35 U.S.C. §112, Second Paragraph

Claim 5 was rejected as vague because of "e.g. Garcinia cambogia fruit" in lines 2 and 3. Withdrawal of the rejection is requested because "e.g. Garcinia cambogia fruit" is deleted from claim 5.

Claim Rejections – 35 U.S.C. 103

Claims 1-15 were rejected as obvious over Lowenstein (US 3,764,692) in view of Moffett (US 5,656,314). Claims 3 and 4 are cancelled. Applicants respectfully traverse the rejections of claims 1, 2 and 5-15.

The present invention relates to processes of producing potassium hydroxy citric acid, which is not in the form of a lactone. The processes comprising the steps of extracting Garcinia fruit with an alkyl alcohol and treating the extract with potassium hydroxide followed by refluxing to obtain potassium hydroxy citrate precipitate.

Lowenstein teaches a method of treating obesity via inhibition of fatty acid synthesis by using (-)hydroxycitric acid (i.e. garcinia acid), the ester or lactone of (-)hydroxycitric acid or the non-toxic salts of these compounds (see Abstract). The non-toxic basic salts of (-)hydroxycitric acid that can be used to treat obesity include the sodium or potassium salts (e.g. see column 2, lines 1-4). These compounds can be used in pharmaceutical compositions comprising them and pharmaceutical carriers (e.g. see column 2, lines 26-31).

Lowenstein discloses that (-)hydroxycitric acid is obtainable from the fruit of Gracina cambogia using known procedures (e.g. see column1, lines 29-31). (-

)Hydroxycitric acid is usually isolated in the form of its lactone (e.g. see column 1, lines 35 and 36). The free acid form of (-)hydroxycitric acid may be obtained from the lactone by base hydrolysis, e.g. sodium hydroxide or potassium hydroxide, followed by acidification (e.g. see column 1, lines 35-39).

The Office Action asserts that Lowenstein teaches that potassium salt of hydroxycitric acid (see column 2, lines 1-4) may be obtained from the garcinia acid lactone by base hydrolysis with potassium hydroxide (see column 1, lines 35-39). Applicants respectfully disagree.

The Office Action states that the present invention differs from Lowenstein in that the present invention involves extraction (3 times) at pH 10, reflux, filtration, washing, milling and packing. However, the Office Action asserts that Lowenstein has laid down the fundamental concept as well as procedures for obtaining the compound from the Garcinia fruit. Moreover, the Office Action states that Moffett teaches that the process for obtaining the hydroxycitric acid concentrate from the fruit rind of Garcinia begins by extracting Garcinia rind with a water miscible organic solvent, e.g. acetone or ethyl alcohol (see column 1, lines 57-58) and resulting in 35 to 55% free hydroxycitric acid (see column 1, line 37). The Office Action states that the percentage of elemental potassium, the specific rotation of the compound and the long term stability of the compound recited in claims 8-11 and 13 are inherent with the compound. Therefore, the Office Action concludes that it would have been obvious to combine Lowenstein and Moffett to optimize the product in the process.

Applicants respectfully traverse the rejection on two grounds.

I. First, the Office Action fails to meet its burden of proving *prima facie* obviousness because, based on the Office Action, the reason for the obviousness of combining Lowenstein and Moffett is "to optimize the product in the process". However, it is not clear what does the Office Action mean by "to optimize the product in the process." For instance, does the Office Action mean that the process of Lowenstein does not produce the product of claim 1, i.e. potassium hydroxy citric acid? The Office Action fails to explain how an optimization of "the product in the process" of Lowenstein renders obvious the present invention. Since the reason of combining Lowenstein and Moffett is not clear, the Office Action fails to show why would the present invention be obvious over Lowenstein, in view of Moffett.

II. Second, applicants submit that the Office Action errs in stating that Lowenstein differs from the present invention in that the present invention involves extraction (3 times) at pH 10. The fact is that the method of **the present invention extracts Garcinia fruit with an alkyl alcohol**. Lowenstein differs from the present invention in two ways:

- (1) Lowenstein does not teach extracting Garcinia fruit with an alkyl alcohol; and
- (2) Lowenstein does not teach treating an organic extract of Garcinia fruit with potassium hydroxide.

In fact, **Lowenstein does not teach extracting Garcinia fruit**, let alone extracting Garcinia fruit with an alkyl alcohol as in the present invention.

The Office Action relies on Moffett for curing the deficiency of Lowenstein of not teaching extracting Garcinia fruit with an alkyl alcohol. The Office Action states that Moffett teaches that the process for obtaining the hydroxycitric acid concentrate from the fruit rind of Garcinia begins by extracting Garcinia rind with a water miscible organic solvent, e.g. acetone or ethyl alcohol (see column 1, lines 57-58) and resulting in 35 to 55% free hydroxycitric acid (see column 1, line 37). Applicants submit that the Office Action misinterpretes the disclosures of Moffett. Actually, **Moffett uses ethyl alcohol only for removing a salt from a water extract of salted Garcinia rind** in a process for preparing a salt-free water extract of the Garcinia rind (see column 1, lines 55-58). Moffett's salt-free water extract is used to prepare the free acid form of hydroxycitriic acid by (1) passing the salt-free water extract of the Garcinia rind through an anion exchange column, (2) eluting the anion exchange column with potassium hydroxide to form a solution of the potassium salt of hydroxycitric acid and (3) then passing the solution of potassium hydroxycitrate through a cation exchange column to obtain a solution of the free acid form of hydroxycitric acid (see column 1, lines 43-54). Applicants note that the process of Lowenstein does not start with salted Garcinia rind, so there would have been no motivation or reason for applying the teaching of Moffett (on using ethyl alcohol to remove the salt) to the process of Lowenstein. Thus, it would not have been obvious to modify the process of Lowenstein using the teachings of Moffett on ethyl alcohol to arrive at the present invention.

The processes of the present invention do not require the removal of salt from salted Garcinia rind and the processes of the present invention do not require the use

of the anion exchange column and cation exchange column. The processes of the present invention are much simpler than the processes of Moffett, which use salted Garcinia rind, an anion exchange column and a cation exchange column. There would have been no teachings or suggestions in the art to simplify the processes of Moffett to arrive at the present invention. Therefore, the processes of the present invention would not have been obvious over the teachings of Lowenstein in view of Moffett.

Lowenstein merely discloses that the lactone form of hydroxycitric acid may be converted to the free acid form by hydrolysis with potassium hydroxide, followed by acidification. There is no teaching or suggestion in Lowenstein or Moffett that extracting Garcinia fruit with an alkyl alcohol would result in the lactone form of hydroxycitric acid. There is also no teaching or suggestion in Lowenstein or Moffett that treating the alcohol extract of Garcinia fruit would result in potassium salt of hydroxycitric acid. Thus, Lowenstein in view of Moffett would not have rendered the claimed processes obvious.

Conclusion

With the above amendments and reasoning, withdrawal of all rejections is respectfully requested. Applicants submit that the application is in a condition for allowance.

In case this paper is not timely filed, the undersigned hereby petitions for an appropriate extension of time. In the event that any fees are due in connection with this paper, please charge our Deposit Account No. 14-1060.

Respectfully submitted,
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